duced into the pocket **9** through opening **7** and slide **8** by means of an attached rigid or semiflexible insertion rod **19**. Preferably, rod **19** will be releasably attached at or adjacent to the edge of lens **18**. After lens **18** is positioned satisfactorily within pocket **9**, the rod is detached from the lens, e.g. by unscrewing it or by snapping or twisting it off, and is withdrawn from the holder and the eye.

Lens holder **5** is then moved into its final position within the chamber of the eye. Preferably, holder **5** is positioned in front of the pupil **23** and seated in the groove located between the scleral spur and the iris **25** (the anterior chamber wedge **24**).

Although the diameter of the present lens holders will necessarily vary according to the internal measurements of the eyes to which they will be fitted, generally useful diameters for this embodiment of the present holder will be about 10–15 mm, preferably about 12–13 mm.

The present holders will preferably be sized so as to fit snugly into this natural groove without exerting undue pressure thereon. However, the high flexibility of the present holders renders it highly desirable to increase the rigidity of the torus after the holder has been positioned in order to reduce the possibility that the holder will rotate, shift or otherwise lose its original position. To accomplish this stiffening, a flexible filament **21** is introduced into the circumferential torus channel **16** via feeder hose **17**. The filament is preferably formed of a hard, flexible material such as wire or hard plastic. After a length of filament **17** adequate to substantially fill channel **16** has been introduced therein, the excess filament and the feeder hose **17** may be cut off and removed from the eye. The clipped edge of the stiffening filament may be secured within the toroid body simply by pressing it into the interior of the channel wall. Alternatively, the entire holder may be formed of a suitable thermoplastic polymer and inserted and positioned in the eye at a temperature at which its flexibility is substantially higher than at body temperature. Upon cooling to body temperature, the holder will rigidify and self-lock in the desired position. The incision is then sutured.

The intraocular insertion and fixation of the present lens holder and lenses in this manner offers a number of advantages not heretofore realized by intraocular lens structures. In the first place, the lens holder can be formed entirely from a flexible, inert polymer such as a silicone rubber, polytetrafluoroethylene or polyhydroxymethacrylate. The high flexibility imparted to the holder permits it to be compressed, e.g. by rolling, into a cylindrical body having a lateral cross-section which is narrower than the later-introduced lens. Therefore, the corneal incision, which must normally be 8–9 mm in length in order to accommodate the lens and its associated connective appendages, now need be no longer than the lens width, as measured perpendicularly to the optical axis of the lens. The incision required to introduce will commonly be no more than about 3–4 mm in length.

In the second place, the incorporation of multiple lens pockets into the present lens holders permits the substitution of multiaperture optical array for the single lens. When employed in this fashion, the present lens holders can incorporate two or more lenses of substantially identical focal length.

Although the resolving power of a lens is reduced linearly as the lens diameter is reduced, the volume of the lens decreases with the third power of the lens diameter. The resolving power of the human eye is determined by the size of the retinal cones and the distance between then. The natural lens has evolved to match this resolving power. However, the sensitivity of the cones deteriorates with age so that the inherent resolving power of the eye's lens is no longer fully utilized. In such situations, an array of small-diameter lenses may not appreciably deteriorate the patient's seeing potential. However, the use of two or more, preferably about 2–5 small lenses allows an easier and less risky implant procedure. In procedures in which the lenses are introduced into the holder after the holder has been inserted into the eye, the reduced lens diameter permits a concommitant reduction in the minimum length of the incision from the minimum required for the insertion of a single lens.

The reduction in individual lens diameter when two or more lenses are employed also allows the lenses to be incorporated into the holder, e.g. placed within the lens pockets, prior to the insertion of the holder into the eye. This is possible since the smaller lenses can be rolled or folded up with the holder without substantially increasing the minimal transverse width of the compressed holder over than attainable with a lens-free holder. The reduction of the lens insertion step, which normally must be carried out after the holder has been inserted into the eye and allowed to assume its original shape, is highly preferred since it greatly reduces the total time required for the lens replacement operation and thus reduces the patient's trauma and risk of damage to the eye.

Finally, the decompression of the soft, flexible holders of the present invention is not accompanied by the risk of cutting or tearing the eye which accompanies the intraocular decompression of the rigid, springy feet or loops commonly employed to position and secure the lens body within the eye. Furthermore, the introduction of the stiffening filament into the toric body allows the even, incremental increase of radial pressure which acts to secure the holder within the anterior ridge or the capsular sac, thus effectively positioning the lens or lens array adjacent to the pupil. Thus the present holders readily adjust to normal distortions of the eye while remaining firmly positioned.

However, it is also within the scope of the present invention to employ flexible lens holders of a diameter smaller than that required to directly contact the outer edge of the holder with an internal eye structure. For example the diameter of the flexible lens holder of FIG. **3** could be reduced to within the size range of commonly-employed artificial lens bodies, e.g. about 4–6 mm. Two lenses, each about 2–3 mm in diameter, could be incorporated into the body of the holder, the holder folded and inserted into the interior of the eye. Such a holder would be secured within the eye by means commonly employed to secure hard artificial lens bodies. Such means could include pre-attached feet or flexible loops such as those disclosed in the patents cited hereinabove.

Although the invention has been described by reference to certain preferred embodiments, those of skill in the art will recognize that many modifications may be made therein without departing from the spirit and scope of the invention.

What is claimed is:

1. An intraocular lens structure useful to position and secure a plurality of artificial lenses in the interior of a